

Appl. No. 09/250,036
Amend. Dated February 12, 2007

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

These amendments introduce no new matter and support for the amendment is replete throughout the specification and claims as originally filed. These amendments are made without prejudice and are not to be construed as abandonment of the previously claimed subject matter, or agreement with any objection or rejection of record.

Listing of Claims:

Claim 1. (Previously presented) An isolated, synthesized or recombinant antibody that specifically binds to a c-erbB2 receptor, wherein said antibody specifically binds to the c-erbB2 epitope as bound by F5 (as encoded by ATCC plasmid deposit designation PTA-7843) or C1 (SEQ ID NO: 2), and further wherein said antibody is an internalizing antibody.

Claim 2. (Cancelled)

Claim 3. (Previously presented) The antibody of claim 1, wherein said antibody comprises an amino acid sequence selected from the group consisting of SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 1 having conservative substitutions, and SEQ ID NO: 2 having conservative substitutions.

Claim 4. (Previously presented) The antibody of claim 1, wherein said antibody shares at least 70% sequence identity with the amino acid sequence of SEQ ID NO: 1 or SEQ ID NO: 2 as determined using a BLAST algorithm and default parameters, and wherein said antibody has a binding affinity for c-erbB2, on cells, of at least 10^{-7} M.

Claim 5. (Previously presented) The antibody of claim 1, wherein the amino acid sequence of said antibody differs from the amino acid sequence of SEQ ID NO: 1 or SEQ ID NO: 2 by no more than 30 residues.

Claim 6-13 (Cancelled)

Claim 14. (Previously presented) The antibody of claim 1, wherein said antibody comprises the amino acid sequence of SEQ ID NO: 1.

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Claim 1⁶ (Previously presented) The antibody of claim 1, wherein said antibody comprises the amino acid sequence of SEQ ID NO: 2.

Claims 16-33 (Canceled)

Claim 3⁷ (Previously presented) A chimeric molecule that specifically binds a cell bearing a c-erbB2 receptor, said chimeric molecule comprising an effector attached to an antibody of claim 1.

Claim 3⁸ (Original) The chimeric molecule of claim 3⁷, wherein said effector is selected from the group consisting of a cytotoxin, a label, a radionuclide, a drug, a liposome, a ligand, and an antibody.

Claim 3⁹ (Original) The chimeric molecule of claim 3⁷, wherein said chimeric molecule is a fusion protein.

Claim 3¹⁰ (Original) The chimeric molecule of claim 3⁷, wherein said cell is a cancer cell.

Claim 3¹¹ (Original) The chimeric molecule of claim 3⁷, wherein said cancer cell is a breast cancer cell.

Claim 3¹² (Previously presented) The chimeric molecule of claim 3⁷, wherein said antibody shares at least 70% sequence identity with the amino acid sequence of SEQ ID NO: 1 or SEQ ID NO: 2 as determined by a BLAST algorithm using default parameters, and wherein said antibody has a binding affinity for c-erbB2 of at least 10^{-6} M.

Claim 4¹³ (Previously presented) The chimeric molecule of claim 3⁷, wherein the amino acid sequence of said antibody differs from the amino acid sequence of SEQ ID NO: 1 or SEQ ID NO: 2 by no more than 30 residues.

Claim 41-42 (Cancelled)

Claim 4¹⁴ (Previously presented) The chimeric molecule of claim 3⁷, wherein said antibody comprises the amino acid sequence of SEQ ID NO: 1.

Claim 4¹⁵ (Previously presented) The chimeric molecule of claim 3⁷, wherein said antibody comprises the amino acid sequence of SEQ ID NO: 2.

Claims 45-57 (Cancelled)

Claim 5¹⁶ (Previously presented) A composition comprising a pharmacological excipient and the antibody of claim 1.

Claim 5¹⁷ (Previously presented) A composition comprising a pharmacological excipient and the chimeric molecule of claim 3⁷.

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Claim ¹⁸56. (Previously presented) The antibody of claim 1, wherein said antibody has a binding affinity of at least 10^{-5} M.

Claim ¹⁹57. (Previously presented) The antibody of claim 1, wherein said antibody comprises a single chain antibody.

Claim ²⁰58. (Previously presented) The antibody of claim 1, wherein said antibody comprises a homodimer.

Claim ²¹59. (Previously presented) The antibody of claim 1, wherein said antibody is coupled to a surface of a phage.

Claim ²²60. (Previously presented) The antibody of claim 1, wherein the antibody comprises a chemically synthesized polypeptide, prepared by

attaching a C-terminal amino acid of the polypeptide to an insoluble support, and sequentially adding remaining amino acids of the polypeptide, thereby preparing the chemically synthesized polypeptide.

Claim ²³61. (Previously presented) The antibody of claim 1, wherein the antibody is prepared from a nucleic acid sequence encoding said antibody by expressing the nucleic acid sequence in a cell.

Claim ²⁴62. (Previously presented) The antibody of claim 60, wherein the nucleic acid sequence encoding said antibody comprises a chain shuffled mutant scFv gene in which a V_H or V_L gene from SEQ ID NO: 1 or SEQ ID NO: 2 has been replaced with a human V_H or V_L gene.

Claim ²⁵63. (Previously presented) The antibody of claim 60, wherein the nucleic acid sequence encoding said antibody comprises a member of a mutant antibody sequence library in which one or more partial or entire CDR sequences have been randomized.

Claim ²⁶64. (Previously presented) The antibody of claim 60, wherein the nucleic acid sequence encoding said antibody comprises a member of a mutant antibody sequence library in which the CDRs of the member sequences are diversified by site directed mutagenesis.

Claim ²⁷65. (Previously presented) The antibody of claim 60, wherein the nucleic acid sequence encoding said antibody is prepared by optimizing the nucleic acid sequence to reflect codon preferences for an expression system.

Claim ²⁸66. (Previously presented) The chimeric molecule of claim 34, said chimeric molecule comprising multiple effectors attached to the antibody of claim 1.

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Claim ~~66~~ (Previously presented) The chimeric molecule of claim 34, said chimeric molecule comprising multiple targeting moieties.

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Claim ~~67~~ (Previously presented) An isolated, synthesized, recombinant or single chain antibody that binds to the c-erbB2 receptor, wherein the binding of said antibody to the c-erbB2 receptor is competitively inhibited by F5 (as encoded by ATCC plasmid deposit designation PTA-7843) or C1 (SEQ ID NO: 2), and wherein said antibody is an internalizing antibody.

^{3,1}
Claim ~~68~~ (Currently amended) The antibody of claim 1, wherein said antibody specifically binds to the c-erbB2 epitope as bound by the peptide encoded by F5 (ATCC plasmid deposit designation PTA-7843, SEQ ID NO: 1).

^{3,2}
Claim ~~69~~ (Currently amended) The antibody of claim 1, wherein said antibody specifically binds to the c-erbB2 epitope as bound by the peptide encoded by C1 (SEQ ID NO: 2).